REMARKS

Original claims 1-29 remain in the application.

The indication that the claims 27-29 are allowable is appreciatively noted.

Claims 1-26 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Agrawal in view of Guey (claims 1-2 and 5-26) and further in view of Kuo (claims 3-4). This rejection is respectfully traversed.

Each of independent claims 1, 2, 5- 10, 12, 17 and 24 are directed to a finger front end comprised of a shift register, parallel sum calculator and as scheduler (or the steps performed thereby). The finger front end results in increased finger demodulation capability in a hardware efficient method as compared to conventional techniques and architectures. The present invention allows for a controllable plurality of chip samples or the like to be shifted and retrieved from a shift register or the like in a parallel fashion to produce a multi-chip result for a given channel each cycle. In a CDMA or equivalent receiver, the multi-chip results may in turn be accumulated and output to a symbol-rate processor on symbol boundaries.

The cited references do not teach a finger front end as described. Agrawal is the principle reference relied upon by the PTO and is distinguished below.

Guey is cited for the proposition that it teaches CDMA receiver architectures allow "for utilizing various systems to implement processing of a large number of channels delivered at high chip rate in a high throughput". No mention of a specific front end architecture is described.

Kuo is cited as relevant to specific limitations in dependent claims 3 and 4. Here again, No mention of a specific front end architecture is described.

Agrawal Distinguishing comments

For the record, mention is made that Agrawal is commonly owned by the present applicant and shares at least one common inventor as the present application.

Agrawal does not teach a finger front end as claimed. This reference describes "searcher" operation and not a finger front end, *per se*.

Agrawal describes using fingers to demodulate signals once located by the searcher, but makes no hint that the searcher itself could be used for finger processing, as in the present invention.

In this regard, Agrawal does not process *a plurality of channels*. Instead, Agrawal describes use of a searcher to find a single pilot channel. For this reason, Agrawal also has no use for a scheduler that operates to produce results for each of the claimed plurality of channels.

Agrawal makes no specific mention of the *scheduler*, although one is presumed. The PTO makes reference to "a type of scheduler ...", but no such scheduler is identified in Agrawal. If there is a presumed scheduler (although no combination of art is shown to identify the limitation, nor any rationale for combining the (non-existent) art, and no rationale for making up the scheduler in view of Agrawal is made), it does not control the shift register. The shift register in Agrawal merely shifts in samples at a fixed rate, and a fixed number of outputs from the register are delivered to the parallel sum. There is no scheduler control of the shift register to access the register to produce results for the plurality of channels.

The Examiner, in reliance in Agrawal, states: "(time-shared-shown in figure 4)". This appears to be an incorrect reading of this reference. There is no time-sharing whatsoever in fig. 4 or any of the supporting text.

Note further that Examiner mischaracterizes Agrawal, "sampled at eight times a chip rate, for controlling the shift register and the parallel sum...". The example given in Agrawal is 2x chip

rate. Using 8x would negate the efficacy of what that sentence (incorrectly) proposes (time-sharing).

Regarding independent claim 10, Agrawal fails to teach the further limitation of a shift register *sized to hold a quantity of I and Q samples sufficient for a round*, wherein a round (as specifically defined) refers to the processing of each of the multiple channels. No round, no multiple channels, no sizing accordingly is described.

Regarding claim 12, Agrawal fails to mention the limitations *symbol boundary* and *spreading factor* in any of its text. That is because a searcher as described in Agrawal correlates a pilot signal, which is not modulated with data, and therefore does not have data symbols, or the resultant symbol boundaries. A spreading factor is used to vary the number of chips for each symbol, and is therefore not used in searching. Thus, the limitations including *round, index address*, corresponding limitations using round and index address, outputting results on *channel symbol boundaries corresponding to a spreading factor*, etc. are all missing from the cited art.

Regarding claim 17, the Office action recites "It is apparent from the figure", the figure not being identified, "that an active channel value for indicating which of the plurality of channels corresponds to the output of the parallel sum calculator and an index address for accessing the shift register is present in accordance with the active channel." There is no support for any of this in the cited art: (as stated above) there is no active channel identified, no plurality of channels identified, certainly no index address in accordance.

Regarding claim 24, this claims includes one or more of the limitations above distinguishing Agrawal and should therefore be allowable for the same reasons.

For the above reasons, all the claims are believed to be distinguishable over the art of record.

Allowable Subject Matter

The claims all now being in consideration for allowance, the Examiner's reconsideration of this application with a view toward issuance is respectfully requested.

The Commissioner is hereby authorized to charge any additional fees that may be required, or credit any overpayment, to Deposit Account No. 17-0026.

Respectfully submitted,

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